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David Jau Young Lee

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EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2665

13

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/589,974

Applicant(s)

LEE ET AL.

Examiner

Daniel J. Ryman

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2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 5/17/2004 have been fully considered but they are not persuasive. On pages 8-12 of the Response, Applicant argues that Lee does not disclose "a base transceiver station (BTS), coupled to the router, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the router communicates with the BTS using a cellular network interface" and equivalent limitations since Lee does not disclose a router communicating with a BTS using a cellular network interface while the home agent communicates with the router using an IP network. Applicant goes on to argue that "all networks in Lee are internet-network protocol networks" (page 9 of the Response). Examiner submits that even though all of the networks in Lee may be IP networks, Lee still renders the claim obvious due to the broad language of the claim. Specifically, Applicant never claims that the cellular network interface is not part of the IP network. Thus, as broadly defined, Lee teaches a router communicating with a home agent using an IP network while a router communicates with a BTS using a cellular network interface where, as broadly defined, the interface through which the BTS receives and transmits information to the router is a "cellular network interface" since the router gains access to the BTS, and thus the cellular network, through this interface. In other words, Lee discloses a router communicating with a BTS over an IP network where the BTS connects to the IP network using a cellular network interface while a home agent communicates with the router over the IP network. As such, Examiner maintains the rejections of the claims.

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2. Upon further consideration, Examiner asserts that Lee in view of Curry also renders obvious claim 10. Examiner previously misinterpreted claim 10 to read that all communications are sent directly to the handoff server from the mobile station. Claim 10, however, only reads that all communications during handoff are communicated through the handoff server. Since Lee discloses that the router is used to direct communications to a proper destination, it is implicit that all communications during handoff are communicated through the router (handoff server).

3. Thus, Examiner maintains the rejections of claims 1-9, 11, and 12. Examiner has also rejected claim 10. Applicant is urged to include further limitations to the claimed invention in order to distinguish the claimed invention from the prior art. Specifically, Applicant seems to be trying to claim that the router communicates with the BTS on an interface which is separate from the network on which the BTS communicates with the HA. Thus, Examiner suggests that Applicant amend the claims to add a limitation specifying that the cellular network interface is not part of the IP network.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (USPN 6,535,493) in view of Curry et al (USPN 6,359,880).

6. Regarding claims 1 and 12, Lee discloses an internet protocol-based communications system, comprising: a router (ref. 114, 144); a foreign agent (FA), coupled to the router (col. 2,

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line 51-col. 3, line 37); a base transceiver station (BTS) (access point), coupled to the router, for communicating with a mobile unit within a transmission area associated with the base transceiver station, wherein the router communicates with the BTS using a wireless network interface (ref. 110, 120) (col. 2, line 51-col. 3, line 37 and col. 4, lines 41-45) where, as broadly defined, the interface through which the BTS receives and transmits information to the router is a “wireless network interface” since the router gains access to the BTS, and thus the wireless network, through this interface; and a home agent (HA), coupled to the router (col. 2, line 51-col. 3, line 37) where “coupled” is broadly interpreted to include indirect connections, wherein the home agent communicates with the router and the foreign agent for registering mobile units and transmitting messages using an internet-protocol network (col. 2, line 51-col. 3, line 4 and col. 5, line 28-col. 6, line 57); wherein messages are transmitted using the internet protocol network between the home agent and the router (col. 2, line 51-col. 3, line 4 and col. 5, line 28-col. 6, line 57), and messages are transmitted using the wireless network interface between the router and the base transceiver station (col. 2, line 51-col. 3, line 4 and col. 5, line 28-col. 6, line 57). Lee does not expressly disclose that the internet protocol-based communications system is an internet protocol-based cellular telephone communications system such that the wireless system is a cellular telephone network; however, Lee does leave open the possibility that the mobile units could be a variety of mechanisms (col. 3, lines 40-42 and col. 4, lines 46-67). Curry teaches, in a public wireless internet gateway system, having an internet protocol-based communications system be an internet protocol-based cellular telephone communications system in order to allow a cheaper alternative to the transport of calls to and from wireless system via telephone carrier networks (col. 1, lines 17-36; col. 2, lines 20-38; col. 3, lines 54-67; and col. 4, lines 2-49). It

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would have been obvious to one of ordinary skill in the art at the time of the invention to have the internet protocol-based communications system be an internet protocol-based cellular telephone communications system in order to allow a cheaper alternative to the transport of calls to and from wireless system via telephone carrier networks.

7. Regarding claim 2, referring to claim 1, Lee in view of Curry discloses a second BTS, wherein a handoff between the BTS (ref. 102 or 104) and the second BTS (ref. 132 or 134) is performed through the internet protocol network (Lee: col. 2, line 51-col. 3, line 4 and col. 5, line 28-col. 6, line 57).

8. Regarding claim 3, referring to claim 2, Lee in view of Curry discloses that a hand off is performed between the BTS and the second BTS using asynchronous transfer mode (ATM) communications between the router and the BTS and the router and the second BTS (Lee: col. 2, line 51-col. 3, line 55 and col. 5, line 28-col. 6, line 57 and Curry: col. 2, lines 38-51). Lee in view of Curry does not expressly disclose that the hand off is a soft hand off (SHO). Examiner takes official notice that soft hand offs are very old and well known in the art since soft hand offs reduce the probability that a connection will be dropped during hand off. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the hand off be a soft hand off in order to decrease the probability that a connection will be dropped during hand off.

9. Regarding claim 4, referring to claim 3, Lee in view of Curry discloses that the SHO is performed using ATM between the BTS and the second BTS and the mobile telephone (Lee: col. 2, line 51-col. 3, line 55 and col. 5, line 28-col. 6, line 57 and Curry: col. 2, lines 38-51).

10. Regarding claim 5, referring to claim 1, Lee in view of Curry discloses that the HA directs a message to the mobile telephone using an internet protocol address (Lee: col. 2, line 51-col. 3, line 55 and col. 5, line 28-col. 6, line 57).

11. Regarding claim 6, Lee discloses an internet protocol-based communications system, comprising: a handoff server (HS) (router) (ref. 114, 144), a base transceiver station (BTS) (access point), coupled to the handoff server, for communicating with a mobile unit within a transmission area associated with the base transceiver station, wherein the handoff server communicates with the base transceiver station using a cellular network interface (ref. 110, 120) (col. 2, line 51-col. 3, line 4 and col. 4, lines 41-42) where, as broadly defined, the interface through which the BTS receives and transmits information to the router is a “wireless network interface” since the router gains access to the BTS, and thus the wireless network, through this interface; and a home agent (HA), coupled to the handoff server (col. 2, line 51-col. 3, line 4) where “coupled” is broadly interpreted to include indirect connections, wherein the home agent communicates with the handoff server for transmitting messages using an internet-protocol network (col. 2, line 51-col. 3, line 4 and col. 5, line 28-col. 6, line 57); wherein messages are transmitted using the internet protocol network between the home agent and the handoff server, and messages are transmitted using the wireless network interface between the handoff server and the base transceiver station (col. 2, line 51-col. 3, line 4 and col. 5, line 28-col. 6, line 57). Lee does not expressly disclose that the internet protocol-based communications system is an internet protocol-based cellular telephone communications system such that the wireless system is a cellular telephone network; however, Lee does leave open the possibility that the mobile units could be a variety of mechanisms (col. 3, lines 40-42 and col. 4, lines 46-67). Curry

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teaches, in a public wireless internet gateway system, having an internet protocol-based communications system be an internet protocol-based cellular telephone communications system in order to allow a cheaper alternative to the transport of calls to and from wireless system via telephone carrier networks (col. 1, lines 17-36; col. 2, lines 20-38; col. 3, lines 54-67; and col. 4, lines 2-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the internet protocol-based communications system be an internet protocol-based cellular telephone communications system in order to allow a cheaper alternative to the transport of calls to and from wireless system via telephone carrier networks.

12. Regarding claim 7, referring to claim 6, Lee in view of Curry discloses that the cellular network interface is asynchronous transfer mode (ATM) (Lee: col. 2, line 51-col. 3, line 55 and col. 5, line 28-col. 6, line 57 and Curry: col. 2, lines 38-51) where Lee discloses using IP in the LAN and Curry discloses using ATM to transport IP packets.

13. Regarding claim 9, referring to claim 6, Lee in view of Curry discloses that a handoff of a mobile telephone between the BTS and a second BIS within the cellular telephone communications system is handled through the handoff server (Lee: col. 2, line 51-col. 3, line 55 and col. 5, line 28-col. 6, line 57).

14. Regarding claim 10, referring to claim 9, Lee in view of Curry discloses the mobile telephone communicates directly through the handoff server during the handoff between the BTS and the second BTS (Lee: col. 2, line 51-col. 3, line 55 and col. 5, line 28-col. 6, line 57).

15. Regarding claim 11, referring to claim 6, Lee in view of Curry discloses that a handoff between the BTS and a second BTS is anchored through the first BTS until updates can be made at the HA (Lee: col. 9, line 11-col. 10, line 12).

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16. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (USPN 6,535,493) in view of Curry et al (USPN 6,359,880) as applied to claim 6 above, and further in view of Raychaudhuri et al (USPN 5,684,791).

17. Regarding claim 8, referring to claim 6, Lee in view of Curry does not expressly disclose that the BTS communicates with the mobile telephone using asynchronous transfer mode (ATM). Raychaudhuri teaches, in a wireless system, using ATM to communicate between a mobile unit and a BTS in order to facilitate seamless support of network-based multimedia applications on both fixed and portable terminals (col. 1, lines 16-58). It would have been obvious to one of ordinary skill in the art at the time of the invention to use ATM to communicate between a mobile unit and a BTS in order to facilitate seamless support of network-based multimedia applications on both fixed and portable terminals.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bender et al (USPN 6,215,779) see entire document which pertains to a wireless data communication system. Ahopelto et al (USPN 5,970,059) see entire document which pertains to routing packets in a packet radio network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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